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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,437	06/09/2000	Jiuzhi Xue	DIS-P016	3249

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EXAMINER

DUONG, THOI V

ART UNIT PAPER NUMBER

2871

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

02

Office Action Summary

Application No.

09/591,437

Applicant(s)

XUE ET AL.

Examiner

Thoi V Duong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 ~~is~~ are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 ~~is~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the Amendment, Paper No. 9, filed January 10, 2003.

Accordingly, new claims 23-26 are added. Currently, claims 1-26 are pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al. (USPN 6,141,076).

With respect to claims 1-22, the claims stand rejected for the same reasons set forth in the last office action.

With respect to new claims 23 and 24, Liu discloses that the first and second pretilt angles are non-zero (col. 4, lines 23-26 and col. 8, lines 42-44).

With respect to new claim 25, Liu discloses an optical device, which provides a chevron-free structure, comprising all limitations of claim 1 and a non-surface-stabilized ferroelectric liquid crystal material. Since Liu discloses a problem in Prior Art where a typical SSFLC (surface-stabilized ferroelectric liquid crystal) creates a "chevron" (col. 1, lines 25-34 and col. 4, lines 36-46), Liu employs a non-surface-stabilized ferroelectric liquid crystal material to provide a chevron-free structure.

With respect to new claim 26, Liu further discloses that the first and second substrates are spaced apart by a distance sufficiently small to obtain a strong anchoring energy (or strong buffing) to suppress formation of helixes typically formed in bulk of the ferroelectric liquid crystal material (col. 3, lines 50-57). Liu also prefers a strong buffing to achieve greater contrast for the display (col. 4, lines 51-53).

Response to Arguments

4. Applicant's arguments filed 01/10/2002 have been fully considered but they are not persuasive.

Applicant argued that Liu has no written disclosure of the quantitative amount of pre-tilt other than claim recitations in claims 1, 12 and 15. The Examiner disagrees with the Applicant's remarks because the pre-tilt angle recited in claims 1, 12 and 15 are part of the specification of Liu's reference. Applicant also argued that Liu does not disclose a chevron-free structure or discuss how one could make such a structure and Liu does not even appear motivated to create a chevron-free structure. The Examiner disagrees

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with the Applicant's remarks since Liu discloses a problem in Prior Art where a typical SSFLC (surface-stabilized ferroelectric liquid crystal) creates a "chevron" structure which resulted in a high transmission loss due to strong buffing when parallel rubbing is applied to the substrates (col. 1, lines 25-34 and col. 4, lines 36-46). Liu overcomes the problem by providing a ferroelectric liquid crystal structure wherein excellent contrast is provided with weak buffing or even greater contrast provided with strong buffing (col. 4, lines 47-53). Accordingly, Liu creates a structure free of chevron.

With respect to new claim 25, Liu discloses an optical device comprising a non-surface-stabilized ferroelectric liquid crystal material which provides a chevron-free structure while the Applicant's invention discloses a similar optical device comprising a surface-stabilized ferroelectric liquid crystal material which also produces a chevron-free structure. However, since the Liu's reference is patented, the optical device of Liu comprising a non-surface-stabilized ferroelectric liquid crystal material is presumed to be valid.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong

03/12/2003


SUPERVISOR IN
TECHNOLOGY